



## Domicile-related carbon monoxide poisoning in cold months and its relation with climatic factors

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### Abstract:

**BACKGROUND:** Many studies have identified strong correlations between winter months and acute, unintentional carbon monoxide (CO) poisoning. In this study, we aimed to investigate the incidence pattern of acute domicile-related CO poisoning in Beijing and its relation with climatic factors. **METHODS:** Data on CO poisoning were collected from the emergency medical service system during August 1, 2005, to July 31, 2007, in Beijing. Variations of the monthly and seasonal distribution of CO poisoning occurrences were examined with chi(2) testing. Climatic data including temperature, barometric pressure, humidity, wind speed, and visibility were obtained from the Beijing Meteorological Bureau. Correlations between the occurrence of CO poisoning and mean of each meteorological parameter spanning 3 days were analyzed with partial correlation test, with related parameters controlled. **RESULTS:** Significant differences were found among the cases occurring each month of the year ( $P < .001$ ). The monthly caseload reached the peak and the nadir in January and in September, respectively. During the cold period, 3331 patients were recorded, accounting for 88.4% of the total cases of the 2-year study period. Among the 5 climatic parameters, only temperature had a significant inverse correlation with the occurrence of CO poisoning ( $P < .001$ ,  $r$  Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) -0.467). **CONCLUSIONS:** The incidences of CO poisoning were highest during winter, particularly during the time period when charcoal or coal use for indoor heating would be most prevalent in Beijing.

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### Resource Description

#### Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

#### Communication Audience:

audience to whom the resource is directed

Policymaker

#### Exposure :

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weather or climate related pathway by which climate change affects health

Meteorological Factors, Meteorological Factors, Temperature, Other Exposure

**Temperature:** Extreme Cold

**Other Exposure:** Visibility

**Geographic Feature:** 

resource focuses on specific type of geography

None or Unspecified

**Geographic Location:** 

resource focuses on specific location

Non-United States

**Non-United States:** Asia

**Asian Region/Country:** China

**Health Impact:** 

specification of health effect or disease related to climate change exposure

Other Health Impact

**Other Health Impact:** Acute, unintentional carbon monoxide (CO) poisoning

**Mitigation/Adaptation:** 

mitigation or adaptation strategy is a focus of resource

Adaptation

**Population of Concern:** A focus of content

**Population of Concern:** 

populations at particular risk or vulnerability to climate change impacts

Elderly, Workers

**Resource Type:** 

format or standard characteristic of resource

Research Article

**Timescale:** 

time period studied

Time Scale Unspecified

**Vulnerability/Impact Assessment:** 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

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